

INCH-POUND

  
MIL-DTL-83503/7E  
21 July 2004  
SUPERSEDING  
MIL-DTL-83503/7D  
17 June 1998

DETAIL SPECIFICATION SHEET

CONNECTOR, ELECTRICAL, FLAT CABLE, NONENVIRONMENTAL  
PLUG WITH DUAL POLARIZATION, ROUND CONDUCTOR, INSULATION DISPLACING  
NON-REMOVABLE SOCKET CONTACTS (.100 X .100 SPACING)

This specification is approved for use by all Departments  
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and  
MIL-DTL-83503.

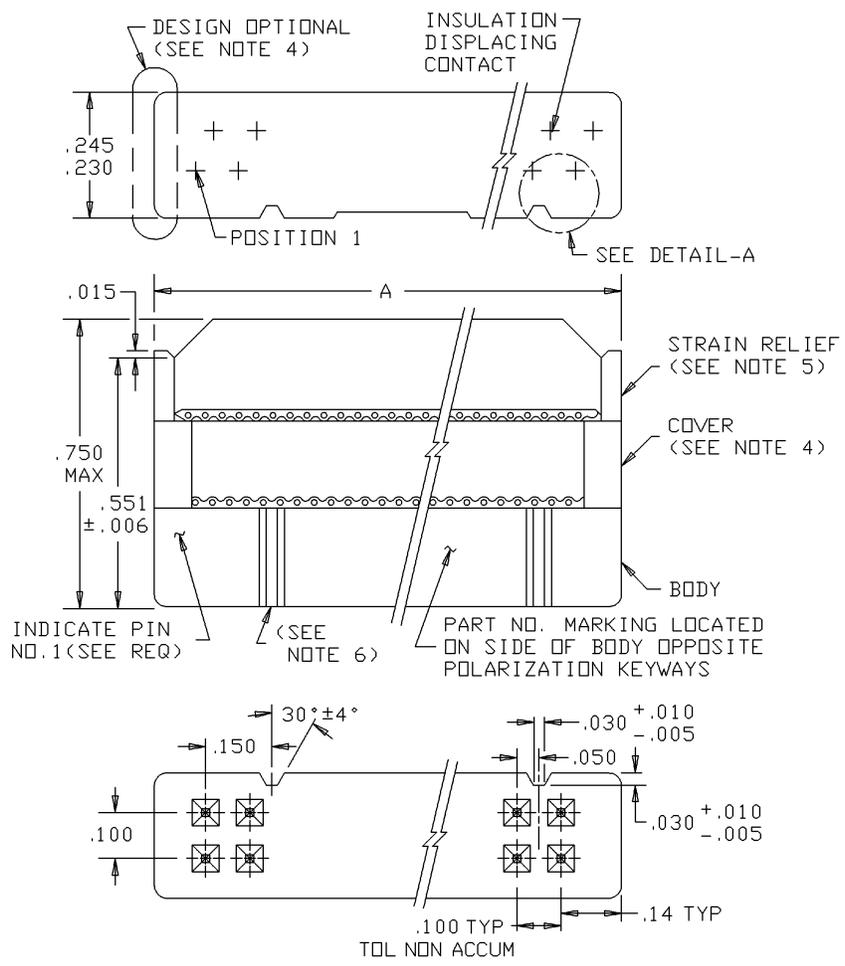
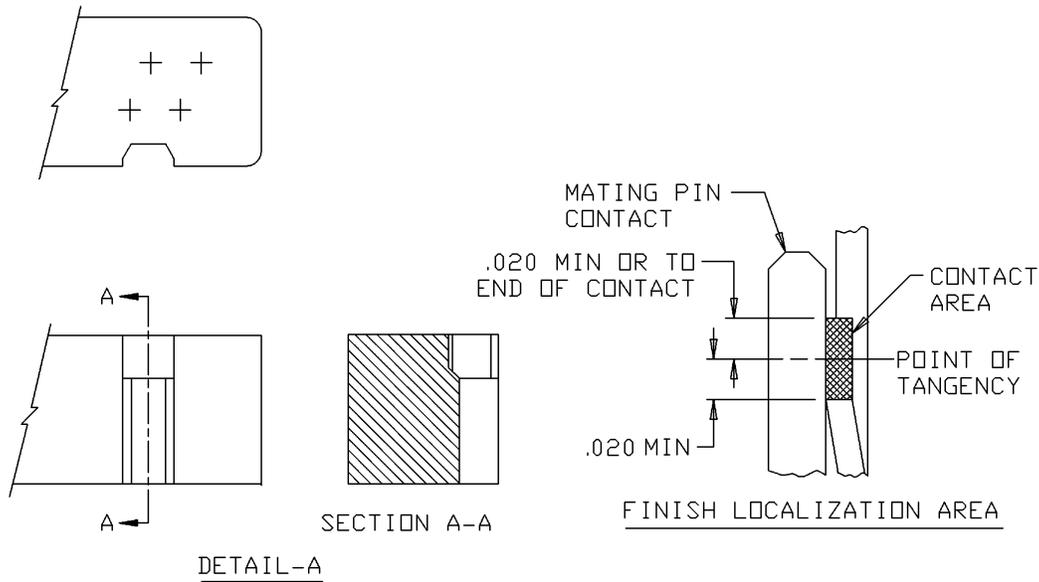


FIGURE 1. Dimensions and configuration.

MIL-DTL-83503/7E



ALTERNATE POLARIZATION NOTCH WITH NON FUNCTIONAL DETENT

Inches	mm	Inches	mm
.005	0.13	.100	2.54
.006	0.15	.14	3.6
.010	0.25	.150	3.81
.015	0.38	.230	5.84
.020	0.51	.245	6.25
.030	0.76	.551	14.00
.050	1.27	.750	19.05

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Unless otherwise specified, tolerances are  $\pm 0.01$  inch (0.3 mm) for two place decimals and  $\pm 0.005$  inch (0.13 mm) for three place decimals and  $\pm 2^\circ$  on angles.
4. The method used to connect the cover to the body is optional, but shall meet the requirements of MIL-DTL-83503 and this specification.
5. Strain relief shall be provided. Strain relief design is optional. The strain relief may be either separate or an integral part of cover.
6. For 10 and 14 position connectors the polarizing feature on this end is non-existent.
7. Tolerances are non-cumulative.

FIGURE 1. Dimensions and configuration - Continued.

MIL-DTL-83503/7E

TABLE I. Dash numbers and characteristics.

Dash number	Number of contacts	Dimension 'A' inch (mm)	Mating Connector	
			Header (straight) M83503/21- or M83503/25-	Header (right angle) M83503/20- or M83503/24-
01	10	.68 (17.3)	01, 02, 03	01, 02, 03
02	14	.88 (22.4)	04, 05, 06	04, 05, 06
03	16	.98 (24.9)	07, 08, 09	07, 08, 09
04	20	1.18 (30.0)	10, 11, 12	10, 11, 12
05	24	1.38 (35.1)	---	---
06	26	1.48 (37.6)	13, 14, 15	13, 14, 15
07	30	1.68 (42.7)	---	---
08	34	1.88 (47.8)	16, 17, 18	16, 17, 18
09	40	2.18 (55.4)	19, 20, 21	19, 20, 21
10	50	2.68 (68.1)	22, 23, 24	22, 23, 24
11	60	3.18 (80.8)	25, 26, 27	25, 26, 27
12	64	3.38 (85.9)	28, 29, 30	28, 29, 30

REQUIREMENTS:

Design and construction:

Dimensions and configurations: See figure 1 and table I.

Temperature range: -55°C to +120°C.

Voltage rating: 300 V rms.

Current rating: 1 ampere.

Test wire size: 28 AWG stranded.

Withstanding voltage:

Sea level: 500 V rms.

MIL-DTL-83503/7E

Altitude: 200 V rms.  
Contact resistance: 50 milliohms, maximum.

Materials:

Contacts: Contacts shall be made of beryllium copper or phosphor bronze. Beryllium copper shall be in accordance with ASTM B196 or ASTM B197. Phosphor bronze shall be in accordance with ASTM B139 or ASTM B103.

Contact plating: The contact mating area shall be gold plated 50 microinches (1.27 μm) minimum (see MIL-DTL-83503).

Housing, cover, and strain relief: Glass reinforced polyester in accordance with MIL-M-24519, type GPT-15F, GPT-20F, or GPT-30F. Cover retaining device may be made of stainless steel in accordance with ASTM A240 class 301 or class 305 stainless steel.

Interface:

Cable: Flat cable, round conductor, 28 AWG stranded in accordance with MIL-C-49055/11, MIL-C-49055/12 or Defense Supply Center Columbus (DSCC) drawing 92011. Flat cable conductor spacing .05 inch (1.27 mm) between conductor centerlines. Overall cable thickness shall not exceed .042 inches (1.07 mm).

Mating connectors: See MIL-DTL-83503/20, MIL-DTL-83503/21, MIL-DTL-83503/24, or MIL-DTL-83503/25.

Printed wiring board (PWB): For PWB's these connectors mate with round or square post .025 inch (0.64 mm). For proper contact engagement these connectors require a .230 inch (5.84 mm) minimum contact pin length. (NOTE: These connectors are not intended to be stacked side by side on a .100 X .100 inch (2.54 X 2.54 mm) pin field.)

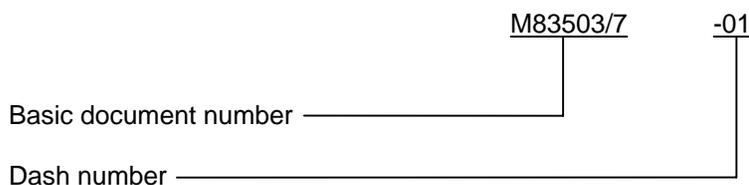
Marking:

Contact identification: Molded triangle "A" or notch to show number 1 contact or raised numbers to show position number "1".

Marking:

Part or Identifying Number (PIN): The PIN shall consist of the letter "M", followed by the basic specification number, "/", The specification sheet number, "-" and the dash number from table I.

Example



MIL-DTL-83503/7E

Referenced documents: In addition to MIL-DTL-83503, this document references the following:

MIL-C-49055/11	MIL-M-24519
MIL-C-49055/12	ASTM A240
MIL-DTL-83503/20	ASTM B103
MIL-DTL-83503/21	ASTM B139
MIL-DTL-83503/24	ASTM B196
MIL-DTL-83503/25	ASTM B197
	DSCC 92011

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

CONCLUDING MATERIAL

Custodians:  
Air Force - 11  
DLA - CC

Preparing activity:  
DLA - CC

(Project 5935-4601-005)

Review Activities:  
Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://www.dodssp.daps.mil>.